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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,584	08/29/2001	Fumio Tamura	040894-5700	5005

9629	7590	09/28/2004

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EXAMINER
WOZNIAK, JAMES S

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED

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<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.</td><td>Applicant(s)</td></tr>
<tr><td>09/940,584</td><td>TAMURA, FUMIO</td></tr>
<tr><td></td><td>Examiner</td><td>Art Unit</td></tr>
<tr><td></td><td>James S. Wozniak</td><td>2655</td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 August 2001</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-15</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-15</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>09 January 2002</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>11/21/2002</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Drawings

1.   Figs. 1, 10, and 11 are objected to because the term "voice recognition" is misused for what nowadays is called --**speech recognition**-- in the speech signal processing art (for example, Element 4 of Fig. 1). While "voice recognition" and "speech recognition" were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term "**voice** recognition" now denotes identification of *who* is doing the speaking (class 704/246), while "**speech** recognition" (or "**word** recognition") denotes identification of *what* is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

Specification

2.   The abstract and disclosure are objected to because the term "voice recognition" is misused for what nowadays is called --**speech recognition**-- in the speech signal processing art (for example, Page 4, Line 6). While "voice recognition" and "speech recognition" were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term "**voice** recognition" now denotes identification of *who* is doing the speaking (class 704/246), while "**speech** recognition" (or "**word** recognition") denotes identification of *what* is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

Claim Objections

3.   **Claims 1 and 8** are objected to because the term "voice recognition" is misused

for what nowadays is called --**speech recognition**-- in the speech signal processing art.

While "voice recognition" and "speech recognition" were both once used interchangeably

to refer to spoken word recognition, nowadays these two terms are distinguished. The

term "**voice** recognition" now denotes identification of *who* is doing the speaking (class

704/246), while "**speech** recognition" (or "**word** recognition") denotes identification of

what is being said (class 704/251). So, appropriate correction to the proper terms of art is

required.

4.   **Claims 14 and 15** are objected to because of the following informalities: "wit

hteh" on Line 4 of each claim should be corrected to read --with the--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   **Claims 1, 2, and 8-11** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Brems et al *(U.S. Patent: 5,566,272)* in view of Waldman *(U.S. Patent: 5,517,719)*.

With respect to **Claims 1 and 8**, Brems discloses:

An audio recognition method and device for a sequence of numbers having a plurality of regions dividable in meaning *(recognizing a telephone number comprising an area code and 7 digit number, Col. 4, Lines 14-56)*, comprising the steps of:

Continuously carrying out an audio recognition *(automatic speech recognition, Col. 3, Lines 61-65)*.

Although Brems teaches storing recognition data within a single database *(Col. 5, Lines 48-52)*, Brems does not specifically suggest:

Connecting a plurality of voice recognition dictionaries with each other, the plurality of voice recognition dictionaries corresponding to the plurality of regions, respectively *(dividing phone numbers within a memory into subgroups according to line access digit, area code, and a 7 digit local number, Col. 4, Lines 46-61, and voice recognition compatibility, Col. 18, Lines 46-50)*;

Brems and Waldman are analogous art because they are from a similar field of endeavor in speech-enabled dialing. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the means of subdividing phone numbers within a database according to a line access digit, area code, and local number as taught by Waldman with the speech enabled dialing method utilizing ASR as taught by Brems to provide for more efficient and reliable voice dialing by offering a means of ensuring that individual digit groups are correct before dialing a number and automatically dialing an area code upon verification *(Waldman, Col. 1, Lines 54-62)*. Therefore, it would have been obvious to combine Waldman with Brems for the benefit

of obtaining a more efficient and reliable voice dialing system through the use of multiple

digit groups stored in a recognition database.

With respect to **Claim 2**, Waldman further discloses:

The sequence of numbers is a telephone number including a suburb code number,

a city code number and a subscriber's number as the regions (telephone number

subgroups, Col. 4, Lines 46-61).

Although Waldman does not teach specific suburb and city code groups, the

examiner takes official notice that this particular type of phone number parsing according

to suburb, city, and local numbers is a well known means of expressing a phone number

in countries such as Japan. Therefore, utilizing the same functionality of dividing a

telephone number into subgroups as taught by Waldman, it would have been obvious to

one of ordinary skill in the art, at the time of invention, to parse an audio representation

of a phone number according to suburb, city, and local digits to increase method

compatibility.

Claim 9 contains subject matter similar to Claims 1 and 2, and thus is rejected for

the same reasons.

With respect to **Claims 10 and 11**, Brems in view of Waldman teaches the

speech-enabled control method utilizing digit subgroups and capable of recognizing a

numerical sequence, such as a phone number, through ASR, as applied to Claim 2.

Although Brems in view of Waldman does not specifically suggest storing a phone

number in a table, the examiner takes official notice that it is well known in the art to

store partitioned numerical data in a table to provide an efficient means of data access.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of

invention, to store segmented phone number data in a table format in order to provide

efficient data access.

7.   **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Brems et

al in view of Waldman, and further in view of Baker et al *(U.S. Patent: 6,539,098)*.

With respect to **Claim 3**, Brems in view of Waldman teaches the voice dialing

method utilizing digit subgroups, as applied to Claim 1. Brems in view of Waldman does

not specifically suggest method usage with a postal code comprising a city, ward, and

area number, however Baker suggests:

The sequence of numbers is a postal code including a city number, a ward number

and an area number as the regions (speech recognition of a postal code, Col. 9, Lines 41-

52).

Brems, Waldman, and Baker are analogous art because they are from a similar

field of endeavor in speech-controlled systems. Thus, it would have been obvious to a

person of ordinary skill in the art, at the time of invention, to combine the means of postal

code identification using speech recognition as taught by Baker with the voice dialing

method utilizing digit subgroups as taught by Brems in view of Waldman to increase

method usability by implementing the method of digit segmentation taught by Waldman

in a postal code recognition application to ensure postal code accuracy. Also, the

examiner takes official notice that a postal code representation comprising a city, ward,

and area number is a well-known means of expressing a postal code in countries such as

Japan. Thus, to provide increased method compatibility, it would have been obvious to

parse a zip code according to such a representation. Therefore, it would have been

obvious to combine Baker with Brems in view of Waldman for the benefit of increasing

method compatibility.

8.   **Claims 4-6 and 12-15** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Brems et al in view of Waldman, and further in view of Attwater et al *(U.S. Patent:*

5,940,793).

With respect to **Claim 4**, Brems in view of Waldman teaches the speech-enabled

dialing method utilizing digit subgroups and capable of recognizing a numerical sequence

through ASR, as applied to Claim 1. Brems in view of Waldman does not teach the use

of three dictionaries for dividing a sequence of numbers and the associated recognition

process utilizing the dictionaries, however Attwater discloses:

Preparing a first, second and third dictionaries *(town, road, and name recognition*

sets, Fig. 1, Elements, 6-8);

Analyzing the sequence of pronounced by voice with reference to the first, second

and third dictionaries to determine the successful recognition of the first, second and the

third region in order *(recognizing a town, road, and name in sequence, Col. 6, Lines 28-*

67);

a) Unless the third region is successfully recognized,

Preparing the third dictionary, receiving the third region in the sequence

pronounced by voice, and analyzing the third region therein with reference to the third

dictionary *(compiling a name list for speech recognition based on a selected road, Col. 6,*

Lines 53-67); and

b) Unless the second and third regions are recognized, preparing the second and third dictionaries; receiving the second and third regions in the sequence of the numbers pronounced by voice, and analyzing the second and third regions with reference to the second and third dictionary *(compiling a road list based upon a selected town and a name list based on a selected road for speech recognition, Col. 6, Lines 42-67).*

Brems, Waldman, and Attwater are analogous art because they are from a similar field of endeavor in speech-controlled systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the use of three vocabulary lists for speech recognition as taught by Attwater with the speech-enabled dialing method capable of recognizing a numerical sequence through ASR as taught by Brems in order to provide more reliable speech recognition processing by individually recognizing numerical categories (for example, area code) and compiling a word list for only the acceptable choices for a particular category based on the preceding selection, thus eliminating consideration of an invalid sequence. Therefore, it would have been obvious to combine Attwater with Brems in view of Waldman for the benefit of obtaining a more reliable speech recognition method through the use of interdependent recognition dictionaries.

With respect to **Claim 5**, Attwater further discloses:

The first dictionary corresponds to the first region; the second dictionary corresponds to the second region depending on the first region; and the third dictionary corresponds to the third region *(first, second, and third data fields corresponding to town, road, and name dictionaries, Col. 6, Lines 28-67, and Fig. 1, Elements, 6-8).*

Claim 6 contains subject matter similar to Claim 2, and thus, is rejected for the same reasons.

With respect to **Claims 12 and 13**, Brems in view of Waldman teaches the speech-enabled control method utilizing digit subgroups stored in a table and capable of recognizing a numerical sequence, such as a phone number, through ASR, as applied to Claims 10 and 11. Furthermore, Attwater teaches the means of creating an acceptable word list for recognition based on a previous field result, as applied to Claim 4. Therefore, it would have been obvious to combine the ability to create a list of words based on a previous recognition result as taught by Attwater with the phone number recognition method taught by Brems in view of Waldman in order to provide more reliable phone number recognition processing by individually recognizing numerical categories (for example, a suburb code as noted with respect to Claim 2) and compiling a word list for only the acceptable choices for a current category based on the preceding selection, thus eliminating consideration of an invalid sequence. Therefore, it would have been obvious to combine Attwater with Brems in view of Waldman for the benefit of obtaining a more reliable speech recognition method through the use of interdependent recognition dictionaries.

Claims 14 and 15 contain subject matter similar to Claims 2, 12, and 13, and thus are rejected for the same reasons.

9.   **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Brems et al in view of Waldman, in view of Attwater et al, and in further view of Baker et al.

Claim 7 contains subject matter similar to Claims 3 and 4, and thus, is rejected for the same reasons.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Kaneuchi et al (U.S. Patent: 4,928,302)- discloses a speech-enabled dialing method that utilizes two separate storage areas for area code and local phone numbers.

- Hiramatsu et al *(U.S. Patent: 5,697,504)*- teaches character recognition of postal codes divided according to city, ward, and town numbers.

- Smith *(U.S. Patent: 5,721,765)*- discloses a PIN number identification method using speech recognition that breaks the number into two or more digit groups.

- Lee et al *(U.S. Patent: 5,937,053)*- teaches a telephone number parsing method.

11.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (703) 305-8669 and email is James.Wozniak@uspto.gov. The examiner can normally be reached on Mondays-Fridays, 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached at (703) 305-4827. The fax/phone number for the Technology Center 2600 where this application is assigned is (703) 872-9306.
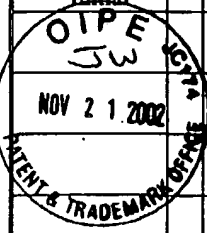
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology center receptionist whose telephone number is (703) 306-0377.

James S. Wozniak
8/26/2004

SUSAN MCFADDEN
PRIMARY EXAMINER

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)
PTO Form 1449

Attorney Docket No. 040894-5700	Application No.: 09/940,584
Applicant(s): Fumio TAMURA	PAGE 1 of 1
Filing Date: August 29, 2001	Group Art Unit: Unassigned
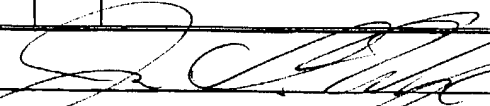
U.S. PATENT DOCUMENTS

*Examiner Initial		Document Number	Date	Name	Class	Sub Class	Filing Date
OIPE JW NOV 21 2002		5,995,926	Nov. 30, 1999	Gupta et al.	704	240	Jul. 21, 1997

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub Class	Translation YES	NO
JW		EP 1 172 994 A2	Jan. 16, 2002	Europe				
JW		WO 00/05710	Feb. 3, 2000	WIPO				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Examiner	Date Considered 8/24/04

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1-WA/1889167.1

		Notice of References Cited		Application/Control No. 09/940,584	Applicant(s)/Patent Under Reexamination TAMURA, FUMIO	
				Examiner James S. Wozniak	Art Unit 2655	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-4,928,302	05-1990	Kaneuchi et al.	704/275
	B	US-5,517,719	05-1996	Christ, Manfred	16/49
	C	US-5,566,272	10-1996	Brems et al.	704/231
	D	US-5,697,504	12-1997	Hiramatsu et al.	209/546
	E	US-5,721,765	02-1998	Smith, David B.	379/93.03
	F	US-5,937,053	08-1999	Lee et al.	379/221.14
	G	US-5,940,793	08-1999	Attwater et al.	704/275
	H	US-6,539,098	03-2003	Baker et al.	382/101
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
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	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.